What is claimed is:

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- A method for conserving pover in a positioning system receiver used in connection with a positioning system providing ranging signals, the receiver using the ranging signals to determine a state of motion of the receiver, the method comprising:
- a) a step (32) of performing at least a predetermined number of solutions of the state of motion of the receiver using a filter solution based on a mix of models of the motion of the receiver, a mix that is varied from one solution to the next according to a predetermined criteria, and of providing the model mix used in each solution; and
 - b) a step (35) of adopting a partial duty cycle indicating a percentage of time selected receiver components are powered on, based on the mix of models used in successive solutions.
 - 2. The method of claim 1, wherein the receiver includes a radiofrequency (RF) front end module and a baseband processor module and further wherein the selected components include the RF front end module.
- The method of claim 2, wherein the selected components also
 include the baseband processor module.
 - 4. An apparatus for conserving power in a positioning system receiver used in connection with a positioning system providing ranging signals, the receiver using the ranging signals to determine a state of motion of the receiver, the apparatus comprising:

- a) means (15) for performing at least a predetermined number of solutions of the state of motion of the receiver using a filter
- 8 solution based on a mix of models of the motion of the receiver
- 9 that are varied from one solution to the next according to a
- 10 predetermined criteria, and for providing the model mix used in
- 11 each solution; and

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- 12 b) means (18) for determining a partial duty cycle indicating a
- percentage of time selected redeiver components are powered on,
- 14 based on the mix of models used in successive solutions.
 - 5. The apparatus of claim 4, wherein the receiver includes a radiofrequency (RF) front end module and a baseband processor module and further wherein the selected components include the RF front end module.
 - 1 6. The apparatus of claim 5, wherein the selected components also include the baseband processor module.
 - 7. A system, including: a transmitter for transmitting a ranging signal, and a ranging receiver for receiving the ranging signal and for determining a state of motion of the ranging receiver, the ranging receiver characterized in that it includes an apparatus for conserving power that in turn comprises:
 - a) means (15) for performing at least a predetermined number of solutions of the state of motion of the ranging receiver using a
 - 8 filter solution based on a mix of models of the motion of the
- 9 ranging receiver that are varied from one solution to the next
- 10 according to a predetermined criteria, and for providing the
- 11 model mix used in each solution; and
- 12 b) means (18) for determining a partial duty cycle indicating a
- percentage of time selected ranging receiver components are

powered on, based on the mix of models used in successive solutions.

8. The system as in claim 7, further comprising a computing resource external to the ranging receiver, and wherein the apparatus communicates information to the computing facility via a wireless communication system and the computing facility uses the information in assisting the apparatus in performing at least a predetermined number of solutions of the state of motion of the ranging receiver using a filter solution based on a mix of models of the motion of the ranging receiver that are varied from one solution to the next according to a predetermined criteria.